Section 505. OVERBAND CRACK FILL

505.01 Description. This work consists of cleaning cracks in hot mix asphalt pavements and placing the specified materials into and over the crack to eliminate water infiltration.

505.02 Materials. The overband crack filler shall be composed of a mixture of polymer modified asphalt cement and polyester fibers blended to provide 4.5 - 5.5 percent polyester fibers, by weight. The materials shall meet the following requirements.

Polyester Fibers 904
Polymer Modified Asphalt Cement 904

505.03 Construction

A. **Equipment.**

1. **Compressed Air System.** A compressed air system shall be used for crack preparation. The compressed air equipment shall be able to produce continuous, high-volume, high pressure air stream of clean dry air. The air compressor shall be equipped with a moisture separator to remove all oil and water from the air supply. The compressor shall be capable of producing a minimum of 100 psi and continuous 150 cubic feet per minute air flow.

2. **Melter Applicator.** The melter applicator shall be a boiler kettle equipped with pressure pump, hose and applicator wand. The hose shall be equipped with a shutoff control. A mechanical full-sweep agitator shall be located in the kettle to provide continuous blending. The unit shall be equipped with thermometers to monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to 425 °F.

3. **Application Wand.** The material can be applied by wand followed by a “V” or “U” shaped squeegee or by a round application head having a concave underside. The width of application shall be 4 inches for standard coverage. With the prior written approval of the Engineer, the application width may be increased to a maximum of 6 inches to provide complete and uniform coverage over multi crack areas. The applied sealant thickness shall be ⅛ inch to 3/16 inch.

4. **Heat Lance.** A heat lance may be used to assure that no residual moisture is present in the crack or on the pavement surface where the overhead is to be applied. The contractor shall not attempt to seal the pavement cracks that are soaked by drying the pavement with a heat lance.

B. **Pre-Construction Meeting.** A meeting will be held prior to beginning the work to discuss the following.

1. The Contractor’s detailed work schedule.

2. The traffic control plan.

3. Required project documentation.

4. Inspection of the condition and adequacy of equipment.

C. **Surface Preparation.** Cleaning of cracks will be performed using compressed air and any other tools necessary to remove all loose dirt, vegetation and foreign material. The crack must be dry and thoroughly clean when the material is applied. Surface preparation shall be conducted no more than 10 minutes ahead of the filling operation.

D. **Application.**

1. **Stand Alone Overband Crack Fill.** When no other surface treatment will be applied to the pavement, fill all visible cracks in the surfaced area of the roadbed unless otherwise specified.

2. **Micro-Surfacing Preparation**. When preparing the pavement for a micro-surface overlay, all visible cracks in the surfaced area of the roadbed shall be treated unless otherwise specified.

3. **Chip Seal Preparation.** The overband crack fill application width shall be 3 inches wide when preparing the pavement surface for a single or double chip seal, filling shall be limited to cracks more than ⅛ inch wide or 3 feet long. Cracks with varying widths, portions of which are ⅛ inch or greater, shall be sealed along their entire length unless otherwise specified.

E. **Mixing Procedure.** When using field mixed material, the polyester fibers shall be added to the polymer modified asphalt cement and thoroughly mixed in the kettle. The temperature of the field mixed or prepackaged material shall not exceed 400 °F.

F. **Required Project Documentation.** The Contractor shall provide the Engineer, on a daily basis, a report with the following information:

1. Control section, job number, and route number.

2. Date, air temperature (°F), weather in a.m. and p.m.

3. Beginning and ending locations for the day, to include lane and direction.

4. Amount of materials used for the day, including lot number.

5. Traffic control typical used, number of traffic control moves, and checks on the traffic control conducted.

6. Unique or different situations on the project.

7. Contractor’s signature.

G. **Weather Limitations.** No material shall be placed unless the pavement temperature is 40 °F or greater. Material shall not be placed if there is moisture in the crack.

H. **Protecting the Work.** Traffic shall not be permitted on the overband crack filler until the material has cooled sufficiently to prevent tracking by vehicle tires. Any damage by traffic to the treated pavement areas shall be repaired by the Contractor at no expense to the Department. If the existing pavement markings are obliterated as a result of the crack treatment work, temporary pavement markings shall be placed before the roadway is opened to traffic at the Contractor's expense. The cover material used for protecting the work shall be approved by the Engineer, no paper products shall be allowed.

I. **Acceptance of Work.** Upon completion of work on the project, or on a route or job included in the project, the Contractor shall schedule an inspection of the work with the Engineer to note any deficiencies. These deficiencies will include areas exhibiting adhesion failure, cohesion failure, missed cracks, or other factors that indicate the work is not acceptable. Work identified by the Engineer as not acceptable shall be redone by the Contractor.

   The Contractor shall notify the Engineer upon completion of required corrective work, or upon completion of work on the route, job, or project if corrective work is not required.

505.04 Measurement and Payment.

Contract Item (Pay Item)	Pay Unit
Overband Crack Fill, Roadbed	Roadbed Mile
Overband Crack Fill, Ramp	Roadbed Mile

Overband crack fill includes the preparation and filling of cracks, providing the required documentation and any corrective action and temporary traffic markings required. **Overband Crack Fill, Roadbed** shall be measured along the roadway centerline and shall include the traffic lanes, the paved shoulders, and all auxiliary lanes. For a divided highway, the roadbed will be measured separately in each direction. **Overband Crack Fill Ramp, Ramp** will be measured along the ramp centerline.